

September 21, 1951.

Dr. B. A. D. Stocker,
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477 First Avenue,
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Dear Bruce:

I hope you will enjoy the metropolis now that you've moved there—I trust it won't be entirely a matter of commuting between your domicile and your lab., although the lower East Side is one of New York's interesting sections.

With this letter, I am sending a pair of Norton Zinder's mutants of *Salmonella typhimurium*, with which you should have no difficulty in reproducing our experiments. I wish I could be as confident with respect to the cultivation of L-forms from them; this we have not yet succeeded in doing. The strains are:

SW-414 Histidine-methionineless from Lilleengen type 2

SW-435 S^F Xyl- Gal- phenylalanine-tyrosine-tryptophaneless from
Lilleengen type 22.

Both these cultures are nutritionally quite stable. When grown together or plated together on minimal agar, an abundance of prototrophs appears, however, but these are (almost?) invariably otherwise similar to the SW-435 parent in other particulars. To demonstrate a "transformation", inoculate the cultures together in complete broth (e.g. Pennassay) incubate at 37° 24 h., then at room temperature another day. Sediment the cells in the centrifuge and filter the supernatant, preferably through sintered Pyrex, but Mandler filters etc., will do also. .1 ml aliquots of the filtrate can be plated directly with 10^8 - 10^9 washed cells of SW-435 on minimal agar to give considerable yields of prototrophs. One can also select for Xyl+, Gal+ or S^F "transformations", but each change appears to occur independently of the others, very much in contrast to the *E. coli* K-12 story. Zinder has done a gradocol experiment. 70% of the FA is retained at .170 u apd. The filtrates retain some activity, and also some very small granules which swell into "small large bodies" with O-antiserum.

Zinder is, as you know, basing his Ph.D. thesis and is working very actively on this material. I know that I can trust your discretion in the dissemination of these cultures. Let us know, when you do yourself, when you will be able to pay us a protracted visit.

Sincerely,

Joshua Lederberg